IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Phoenix, Arizona

pplicant: Hoki Kwon.

Group:

2881.

Serial No.: 10/078474

Examiner:

t.b.d.

Filed:

2-21-2002

Atty Docket No.:

V637 02769

US

For:

LONG WAVELENGTH VCSEL GROWN BY MOCVD USING

ALPSB/GAPSB AS BOTTOM MIRROR AND GAAS/AL(GA) AS

TOP MIRROR

TRANSMITTAL OF INFORMATION DISCLOSURE STATEMENT WITHIN THREE MONTHS OF FILING OR BEFORE MAILING OF FIRST OFFICE ACTION (37 C.F.R. §1.97(b))

Box Patent Application **Assistant Commissioner of Patents POB 1450** Alexandria, VA 22313-1450

Dear Sir:

In accordance with Applicants' duty of disclosure under 37 C.F.R. §1.56, you will find attached hereto form PTO-1449, listing information which may be material to the patentability of this application, previously filed.

1. Preliminary Statements.

The filing of this Information Disclosure Statement shall not be construed as a representation that a search has been made (37 CFR § 1.97(g)), an admission that the information cited is, or is considered to be, material to patentability as defined in 37 C.F.R. § 1.56 (37 C.F.R. § 1.97(h)), or that no other material information exists.

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The filing of this Information Disclosure Statement shall not be construed as an admission against interest in any manner. Notice of January 9, 1992, 1135 O.G. 13-25, at 25.

Form PTO-1449, List of Prior Art Cited by Applicant, citing 1 U.S. patent, 0 Foreign patents and 10 publications.

- 3. Attached to this Information Disclosure Statement is a copy of the International Search Report in the corresponding International Application, along with the cited references, for consideration by the U.S. Patent and Trademark Office. Copies of the references listed in the International Search Report that have not been provided are believed to define the general state of the art and are not considered to be of particular relevance.
- 4. The person making this statement is the attorney who signs below on the basis of the information supplied by the inventor(s) and the information in the attorney's file.
- 5. This Information Disclosure Statement is being filed before the mailing date of a first Office Action on the merits, in accordance with the provisions of 37 C.F.R. §1.97(b).

Telephone:

602.313.3345

Facsimile:

602.313.4559

Andréw A. Abeyta Reg. No. 39,582 Attorney for Applicant

Honeywell International Inc. (Assignee) 101 Columbia Road

P.O. Box 2245

Morristown, NJ 07962

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(USE AS MANY SHEETS AS NECESSARY)

Sheet	1	Of	2

COMPLETE IF KNOWN				
Application Number	10/078,474			
Filing Date	February 21, 2002			
First Named Inventor	Hoki Kwon			
Art Unit	2881			
Examiner Name	t.b.d.			
Attorney Docket Number	V637 02769 US			

					U.S. PATE	ENT DOCUMENTS		
	0.22	Document Number				Pages, Columns, Lines Where		
Examiner Initials*	Examiner Initials*	Cite No. ¹		Number	Kind Code ² (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Relevant Passages or Relevant Figures Appear
		US	6,046,065		4-4-2000	Goldstein et al.		
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Sheet	2	Ot	1 2
Circuit			

COMPLETE IF KNOWN					
Application Numb r	10/078,474				
Filing Date	February 21, 2002				
First Named Inventor	Hoki Kwon				
Group Art Unit	2881				
Examiner Name	t.b.d.				
Attorney Docket Number	V637 02769 US				

		OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS	
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published	
		International Search Report, dated 08-09-2003, relative to PCT application No. PCT/US 03/05368, the foreign equivalent to the instant U.S. application 10/078474.	Ī
		AKIYAMA, M., et al., "Growth of high quality GaAs layers on Si substrates by MOCVD:, article, Journal of Crystal Growth, Vol 77, 1986, pgs 490-7.	
		BOUCART J et al. "Metamorphic DBR and Tunnel-Junction Injection: A CW RT Monolithic Long-Wavelength VCSEL" IEEE Journal of Selected Topics in Quantum Electronics, IEEE Service Center, US, vol. 5 no. 3 May 1999 pages 520-528	T
		BOUCART, J., et al., "Optimization of the metamorphic growth of GaAs for long wavelength VCSELs", article, Journal of Crystal Growth, 201-202, 1999, pgs 1015-9.	T
		DEMEESTER, P. et al., "GaAs on InP: a promising material combination", article, Chemtronics, Vol 4, Mar 1989, pgs 44-8.	T
	•	GEBRETSADIK H et al. "Growth of High-Quality GAAS/ALAS Bragg Mirrors on Patterned Inp-Based Quantum Well Mesa Structures" Applied Physics Letters, American Institute of Physics. New York, US, vol. 71, no. 5, August 4, 1997 pages 581-583	
		GOLDSTEIN L. et al. "Metamorphic GAAS/ALAS Bragg Mirrors Deposited on INP For 1,3/1,55 Mum Vertical Cavity Lasers" Digest IEEE / LEOS Summer Topical Meetings, XX, XX, August 11, 1997 pages 49-50	T
		GOLDSTEIN, L., et al., "GaAlAs/GaAs metamorphic Bragg mirror for long wavelength VCSELs", article, Electronics Letters, Vol 34, No 3, Feb 5, 1998, pgs 268-70.	T
		SHIMOMURA, H., et al., "High-reflectance AIPSb/GaPSb distributed Bragg reflector mirrors on InP grown by gas-source molecular beam epitaxy", article, Electronics Letters, Vol 30, No 4, Feb 17, 1994, pgs 314-5.	T
		STARCK, C., "Fabrication of 1.55 µm oxidized VCSELs with top metamorphic GaAs/GaAlAs and bottom InP/InGaAsP Bragg reflectors", article, IEEE 10 th International Conference on Indium Phosphide and Related Materials, Tsukuba, Japan, May 11-5, 1998, pgs 369-72.	
		YUEN W. et al. "High-Performance 1.6 Micrometers Single-Epitaxy Top-Emitting VCSEL" Electronics Letters, IEE Stevenage, GB, vol. 36, no. 13, June 22, 2000 whole document.	
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Docket No: V637 02769 US Serial No. 10/078,474 Filed 02-21-2002

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